

HANDHELD DEVICES AS VISUAL INDICATORS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a Continuation of U.S. application Ser. No. 13/718,969 entitled “HANDHELD DEVICES AS VISUAL INDICATORS” and filed on Dec. 18, 2012, which is a Continuation of U.S. application Ser. No. 12/128,586, entitled “HANDHELD DEVICES AS VISUAL INDICATORS” and filed on May 28, 2008, which is a Continuation of U.S. application Ser. No. 10/889,933, entitled “HANDHELD DEVICES AS VISUAL INDICATORS,” filed Jul. 12, 2004, which issued on Nov. 10, 2009 as U.S. Pat. No. 7,616,097; both of which are hereby incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] Field of the Invention

[0003] The present invention relates generally to portable hand held computing devices. More particularly, the present invention relates to portable hand held computing devices that utilize a backlit display as a visual indicator.

[0004] Description of the Related Art

[0005] Portable hand held electronic devices (such as PDAs, telephones and music players) have incorporated liquid crystal displays (LCD) to visually display text and graphics to users. In some cases, the LCDs have included backlighting, which illuminates the LCD from behind so that the text and graphics can be easily seen in low light conditions. The backlighting is typically user selected, i.e., the user can turn the backlighting on and off. As is generally well known, this may be accomplished with onscreen options or switches located on the device. When on, the intensity of the luminance typically stays at a constant level so as to not adversely effect or impact the user during use. In essence, backlighting is similar to traditional lights found in homes, cars, flashlights, etc. That is, they must be switched on and off, and when on they only output at a constant level.

[0006] Other types of electronic devices as for example computers, computer monitors, televisions, and stereo equipment, have incorporated small indicators to visually alert users of a particular status of the electronic device as for example whether the device is on or off. These indicators typically include a small clear plastic insert, which is located in front of a light emitting diode (LED), and which is inserted within an opening in the housing of the electronic device thus causing it to protrude outside the housing. Alternatively, the LED itself may be placed in the opening in the housing such that it protrudes outside the housing. While indicators such as these work well, they are limitations when applying them to smaller handheld devices. For one, handheld devices have limited space, which makes placement of these types of indicators difficult. In addition, the indicators always exist at the surface of the housing thereby creating breaks, lines, pits, protrusions, which are aesthetically displeasing and degrade the look of the hand held electronic device. Moreover, the indicators typically cover a small area and only provide a slight amount of illumination thereby making them difficult to see clearly, especially from far distances.

[0007] In view of the foregoing, what is desired is a portable handheld electronic device having a back lit display that produces a varying light effect, and that can be used as a visual indicator.

SUMMARY OF THE INVENTION

[0008] The invention relates, in one embodiment, to a mobile handheld computing device configured for operation as a media player and for operation as a safety reflector or light in low light and no light conditions. The computing device has a light source configured to output a beacon light effect that alerts others to the presence of the user of the computing device when the user is in low light or no light conditions. The beacon light effect may include blinking, fading in and out, ebbing, pulsating or strobing. The light source may for example be part of a backlit display.

[0009] The invention relates, in another embodiment, to a computer implemented method performed on a hand held computing device having a backlit display. The method includes receiving a light command and controlling the back lighting in accordance with the light command. The light command varies a characteristic or attribute of the light generated by the backlit display in order to provide visual indicia on the backlit display.

[0010] The invention relates, in another embodiment, to a hand held media player having a display with backlighting. The display is configured to present text or graphics to a user. The backlighting is configured to provide visual stimulus for relaying information to a user or a user's surroundings.

[0011] The invention relates, in another embodiment, to a media player system. The system includes a media device controller that directs inputs and outputs between an input device, display, one or more light sources and a speaker. The media device controller includes a media player module that controls the overall activity of the media player system. The media device controller also includes a GUI module that controls information presented on the display. The media device controller further includes a mode selector module that controls whether the media player system is in one of a plurality of light modes. The media device controller additionally includes a light module that controls the operation of the light source based on which light mode is selected.

[0012] The invention relates, in another embodiment, to a computer implemented method performed on a hand held computing device having a backlit display. The method includes presenting a menu on the backlit display. The menu includes a backlighting feature. The method also includes determining if the backlighting feature is selected. The method further includes retrieving backlighting options when the backlighting feature is selected. The method additionally includes presenting the backlighting options on the backlit display. The backlighting options include at least first and second options, each of which represent different modes of backlighting. Moreover, the method includes determining if the first or second option is selected, retrieving a light setting associated with the first option when the first option is selected or a light setting associated with the second option when the second option is selected, and outputting a first light effect with the back lighting based on the first light settings or outputting a second light effect with the back lighting based on the second light settings.